

clear that the tactile images were dominating and that his hands were of a predominantly tactile type.

Thus, according to their respective predispositions, one person can "see," like Diamondi, figures being placed in front of him, while another person, like Inaudi, hears his own voice calculating. Fleury, in turn, felt the relief of cubes at the tips of his fingers. Each sensation is, therefore, with each individual complementary to the rest of his personal mental activities.

These faculties show the extraordinary possibilities of our brains which are even capable of competing with computers. All these powers imply a consciously directed sensory-motor activity which, no doubt, will interest parapsychologists by their analogies with automatic writing and, on the level of art, with designs and pictures executed by those who are "painters without having learned."

In short, all these synesthesias, diversely oriented and tributary to conditions obtained without direct participation of our sight, have shown the important role which color impressions can play in our daily lives. Everything said up to this point, however, has been in relation to the "normal" powers of man.

But as we have stated already, it occurs that these powers transgress the framework of classical psychology. This happens, for example, when there is an intrusion—often a brutal one—of data contained in the consciousness of others or of a perception of events that take place in the present but at a distance, and when past and future events are "seen."

Then the doors open to the domain of the paranormal which is always so near to the domain of art.

II

THE PARAPSYCHOLOGICAL LEVEL

Here we have finally arrived at the heart of our subject. From now on, we shall consider more complicated phenomena: appearances of colors and figurative forms evoked at a distance—by telepathy or by clairvoyance.

As the existence of these phenomena has been confirmed by statistical evaluations, the reading of this chapter may seem rather dry. It is the truth, however, that these statistics are a guarantee of the seriousness of these experiences and experiments; they stress not only the importance of color in paranormal perception but also the importance of the Stepanek effect, named after the subject on whom this effect was observed.

I. *Appearance of a Color by Telepathy*

1) *Role of the Nature of Stimuli and Results*

a) *Standard Playing Cards*

The proving of telepathic phenomena by statistical methods is especially facilitated by using decks of simple playing cards and by playing a card game.

Ever since parapsychology made its start as a science, the psychic research societies in England and France endeavored to establish experimental proof of the transmission at a distance of colors and colored symbols of playing cards. This study was later extended to other stimuli, as we shall see later.

Looking back, we will remember that Professor Charles Richet was the first to introduce statistical methods to parapsychology, in 1874. He used card games, just as Myers did later in 1884. The

probability of success is as easy to evaluate concerning colors and numerals as with face cards.⁶

At the beginning, the experimenter was satisfied to shuffle the cards, drawing one and asking the subject to identify it. Repeated, this operation permitted the establishment of statistical results and their evaluation in proportion to simple chance expectancy.

It is true that too monotonous a repetition of these trials often lead to a decline, which was ascertained right from the beginning of the tests. The subjects, even those very gifted, submit with difficulty to the discipline required; this gave birth to the idea of transforming the tests into a game.

The Game of Telepathic Encounter, invented by René Warcollier, is one of the variants of this astute adaptation. The agent, who acts as the "banker" has in his hands 13 cards of the same color; another suit is handed to the percipient. The banker shuffles his 13 cards, takes one at random and looks at it while the percipient is required to draw an identical card from his hand, placing it in the center of the table.

Over this card, the agent places his card, face down. This is repeated with the 12 remaining cards, each of which will then be covered by a card from the percipient's hand. There will then be 13 stacks of two cards each. Then one can proceed to the statistical analysis.

These tests for telepathy can just as well become tests for clairvoyance. In the absence of a partner, a subject can very well train himself, all alone, to pick out diamonds, hearts, clubs, spades, face cards or numerals from a deck, the cards of which are turned face down to the table. He could easily evaluate the results himself, check his progress and observe if he can perceive better, parannormally, certain forms or certain colors.

As certain colors are more predominant⁷ than others, it is difficult to eliminate in these anticipated experiences the influences, even if unconscious, of structures or colored forms which impose themselves more particularly on the subject.

Moreover, certain predominant symbols acquire this quality due

to some unforeseen particularities, for example, symbols that relate to certain customs which are characteristic of a country. Thus, in the United States, it is the star of the Zener cards that is most predominant, as stars are displayed on the American flag.

Transmissions of colors at a distance seem to be then of a special interest for the study of their predominancy as well as for their possible eventual relations to psychology and physiology.

One difficulty has to be faced: that of finding tests as capable as possible of eliminating at one time, affective reactions as well as the perception of too elementary stimuli.

To obtain these results, René Warcollier and, with him, René Hardy used either decks of cards with different symbols and colors or devices able to stimulate the transmission (see below). The author herself adapted René Warcollier's test to her research work with subjects deprived of sight, for a comparison of their results with the ones he had obtained.

b) *Telepathic Decks of Symbol Cards*

In order to research statistically whether it is a figure communication or only a simple element that is best transmitted, Warcollier used successively various stimuli comprised of two receivable elements: symbol and image, then image and color and, finally numeral and color. Different decks of 25 cards were thus prepared for these so-called double-effect tests.⁸ The experiments were carried out with closed decks with an agent operating on a group of about a dozen percipients, who often were of very different types and had come for the first time to the Institut Métapsychique International.

Not only did the results permit a bringing out of the global aspect of their paranormal reception, but also modifications of these results, according to the affective effects of one or the other association of the elements of the image and, in addition, notable differences of predominancy found in the reception of colors. They raised, besides, the question of the relation of paranormal perception with the physiology of sensory channels.

8. This test differs from the one made with colored Zener cards, which are also used in the United States, but with the same color for each category of geometric figures. Thus all circles are yellow and all crosses are red. The probability remains, therefore, 1/5 for every "hit," while in R. Warcollier's test it is 1/5 for partial hits (figure or color received separately), but it is 1/25 when there is a global reception of the figure and the color.

6. However, it was Dr. J. B. Rhine's statistical work which introduced parapsychology at Duke University in 1934.

7. Predominant is used to translate the French word: "prégnante."

In connection with this subject, the so-called "domino test" can find its place here, going through its different stages.

The first test is a double-effect test, because there are, as mentioned, two elements to detect, consisting of five concepts distributed according to distinct sensory and motor elements:

—Insects	(I)	possessing:	an emotive element
—Fruits	(F)	"	: a gustative sensory element
—Music	(M)	"	: an auditive and affective sensorial element
—Geometry	(G)	"	: an intellectual element
—Velocity	(V)	"	: a dynamogenic element (linked perhaps to cenesthetic and kinesthetic impressions)

Each of these concepts comprises five concrete images such as: apple, banana, grape, lemon, and pear for the fruits.

The first test permits the selection of not just any image or figure, but those which, statistically, based on 100 runs with 30 untrained subjects, have been the most frequently received: ship (V), grapes (F), trumpet (M), dragonfly (I), and triangle (G).

In a second test, René Warcollier encircled each image previously selected with a line of five different colors, thus with each of the five dragonflies one was colored with blue, green, violet, red or black.

On 2,550 trials conducted in 1956, there were 136 global results which were more significant (CR - Critical Ratio = 3.43) for the colors than the partial results. An analysis of the global hits of colors showed a considerable difference in predominancy of colors: Red = 32; Black = 30; Blue = 29; Green = 26; Violet = 19.

It may be surprising that this order does not correspond at all to our habitual scale of retinal sensitivity, which is low for red. Consequently, as it is higher for yellow, another problem arises: if we replace violet by yellow (for which the retinal sensitivity is maximal), would the paranormal order of color reception correspond or not correspond to the physiological order?

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However that may be, several important facts are established by this test:

- 1) The global results express the psi faculty much better than the partial results.
- 2) The partial results show that the figures are better received than the colors.
- 3) The colors are unequally predominant.

Finally, in a third test, the deck of cards is further modified.

- 1) In order to appraise the inferiority of the partial results obtained with colors in relations to the figures;
- 2) In order to see whether the paranormal transmission of the yellow color does not correspond to the normal retinal sensitivity, for this shade of the spectrum.

Instead of simply encircling each of the figures with a color line, René Warcollier colored the entire surface of the pictures with each of the five colors, among which violet was replaced by orange-yellow. Moreover, he used fluorescent colors.

The decreasing order of hits of colors obtained in the global tests was: Red, Black, Green, Blue, Yellow.

The definite results of 6,250 trials can be summed up as follows:

- 1) The percipients received the figure-color combination stimulus much better than separate elements. On 6,250 trials, the CR was 3.43.
3. There was one chance in 741 that this result would be a random one.

- 2) The intense coloration of the stimuli made the color partial hits positive, depending on the forms of the figures.
- 3) The yellow-orange was as little predominant as violet.

The most interesting results are, of course, those that concern, on the one hand, the coloration of the cards and, on the other hand, the classification of the colors when they do not correspond to the physiological sensitivity of the eye.

An objection could be raised, however, when in a fourth test, other experiments with other decks voluntarily linked with affirmative associations, it has been shown, for example, that, if black butterfly flies are inhibited, a red star is, on the contrary, definitely positive.

It should be recognized that, even in quantitative experiments,

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affective factors, especially those corresponding to fears and apprehensions, modify the global results.

We should not believe, however, that affective associations always facilitate the outcome. It happens that they play an inhibiting part. So it is that an association of ideas such as black butterfly or black flower inhibits the psi faculty.

c) *The Domino Test*

A moment ago, we alluded to the Domino Test. Now we shall explain its scope.

For a definite elimination of the emotional charge which a picture-color association can contain, there is nothing simpler than to make use of the numerals from 1 to 5, as René Warcollier has done in adapting a geometric presentation of the kind seen on the faces of dominoes. Hence the domino test terminology. Each numeral can have, in its turn, five different colors: blue, green, yellow, red and black—thus constituting a double effect.

5,000 trials were made and the global critical ratio (CR) was 3.1.

Here again, the double effect discloses clearly the paranormal faculty. The classification of the 243 global-hit colors was: Red-61; Green-55; Black-45; Blue-42; and Yellow-40; the chance average being 40 for each color.

Not one of these colors was below the probability rating to be applied, and black was found to be halfway between the predominant colors and those which are not predominant.

Whatever the elements may be to which they are associated, red and yellow remain at extreme positions in telepathic transmission of colors.

The author herself studied at the Institut Métapsychique International the transmission of colors by using a closed-deck domino test; the statistical analysis showed positive results for red, CR = 5.21, next for green and black, and near to simple probability for blue and yellow, CR = 0.31.

On the other hand, research done with blind subjects led to very different results, which brought up the problem already mentioned: what are the relations of paranormal perception to the sensory influences?

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d) *Adaptation of Certain Tests for Blind People*

Considering the fact that an image has the characteristic, in effect, of releasing the same reactions as the corresponding sensation, one could raise the question whether subjects who lost their sight *accidentally*, but having seen colors during the period preceding their blindness, would be receptive to colors in the same order, going from red to yellow.

Among the various investigations we were able to make personally since 1966, we wish to discuss those we carried out with Jacques Berthaux, who became a sculptor after losing his sight. As we have seen, artistic sensitivity is a favorable condition, as it is often linked with those paranormal conditions which we are studying.

Let us stress the point that in all this research work based mainly on the relations of the kinetic and motor sensations to mental images and colors, the agent as well as the percipient uses targets cut out of wood, or plastic material which a blind person can identify.

We further wish to point out that the experimenter and the subjects are by turns agent and percipient. A realization of the reciprocal conditions of sending and receiving actually favors the transmission. It permits the experimenter to choose the "stimuli" in relation to the exterior data which the subject can only receive by four sensory channels.

The inversion of the roles also breaks the monotony and relieves the fatigue which cannot be avoided with endeavors of this kind.

Before arriving at color transmission proper, these experiences in the case of the blind must pass through several intermediate stages requiring first the transmission of motor and tactile stimuli.

For this purpose, geometrical figures are used again, but cut out of wood: squares, rectangles, triangles and circles. They are placed in the same order before the agent and before the percipient. When the sound signal is heard, the agent outlines with a pencil very carefully the contours of one of the forms and the percipient tries to name it.

In 1967, small disks pasted on cardboard—the so-called domino test—furnished the stimuli for sending the numerals 1 to 5, then Zener cards cut out in plastic material were used and, finally, objects.

Leaving the transmission of forms behind, we started with the

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sending of colors, as Jacques Berthaux was also quite capable of producing polychronic sculptures.

Rectangular pieces, sized $2\frac{1}{2} \times 1\frac{1}{2}$ cm. made of galalithe—red, green, yellow and blue—were pasted in this order on cardboard, 2 cm. apart. Tactile markings indicated the colors of the pieces placed before the blind subject so that, in touching one, he knew which color he was sending or receiving.

In adapting the processes of these experiments as closely as possible to those followed with subjects with normal sight, we have used, since October 1971, decks of 25 cards for the sending of dominos and decks of 20 cards for the sending of colors.

Jacques Berthaux's deck showed the name of the color embossed on the cards with Braille characters above a plastic label of the corresponding color. After shuffling the cards, the sending was done card by card, and a comparison of the sending and receiving of the cards of the agent and percipient permitted an establishment of the results after the emission.

Analogous experiments were conducted with another subject who had lost his sight accidentally many years ago. The results were added to those obtained with Jacques Berthaux and a statistical evaluation was made. In these experiments, yellow CR = 6.37 took the first place and green CR = 0.92 the last.

Perhaps a memory of luminosity made the yellow color more predominant. Or are there physiological explanations due to the lack of one sensory channel?⁹

Should they perhaps be compared with the experiments on clairvoyance (without an agent) made by Professor Hans Bender in 1936, which demonstrated that the best received hue was yellow, followed by black, red, green, blue and violet?

From all these comparisons, it seems to result that the para-normal perception of color is linked with general psycho-physiological conditions and that it can vary if these conditions are modified on a sensory plane.

9. Analysis of pilot tests made with Daltonian subjects at the initiative of Dr. H. C. Berendt showed the predominance of the color blue. Of 1,500 trials, there were 78 global hits ($p=1/25$) with the colors distributed as follows: Blue=21, Red=18, Yellow=14, Green=13, and Black=12.

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e) *The René Hardy Apparatus*

All these statistical studies require, quite naturally, long and tedious analyses, but parapsychology must also use modern technical methods such as the registration of the results on electronic devices or processes of a direct inscription of the results on standard IBM punch cards.

Concerning the first method, Engineer René Hardy, who did research on a *new statistical method for the study of unconscious preference of colors*, constructed a dial apparatus, one feature of which was the electronic registration of the calls of the percipient.

It is comprised of a dial divided into five sectors of different colors—Blue, Green, Yellow, Violet and Red—in front of which, turns, in five seconds, a pointer. Here, too, we have two elements of transmission: *rhythm and color*.

The transmission here is realized in a manner differing greatly from the one produced with cards (case of telepathy). Moreover, it is based on the choice of a color which is to be received in preference to the others.

Hardy considers the phenomenon of telepathy as a particular case of telecommunication.

The velocity of the pointer turning on the dial and watched by the agents must be transmitted biologically in perfect synchronization with the percipient. The latter, located in another room, must try to detect the precise moment at which the pointer passes in front of the color which can be chosen by the agent as well as by himself. At that moment, he pushes an interrupter which registers his call and fixes the position of the pointer.

The statistical results showed that, even when the choice of color was voluntary, *the predominancy of red persisted*.

The will, of course, can add certain modifications. Red, however, remains at the head of the classification, yellow and violet appear to be more difficult to transmit. Further below, we shall analyze the results in more detail.

f) *Standard IBM Port-a-Punch Cards*

Concerning this second method of port-a-punch cards, it does not give, of course, any results of a paranormal perception of colors, but it offers a fast technique permitting the percipients to register

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immediately their calls on cards ready to be "taken up," i.e., to be analyzed by a computer according to its programming.

When in 1970, we again took up the study of domino tests, one of our collaborators, Lionel Oliver, drew up other types of sheets which were more practical, but the results had still to be collected "manually" and then the statistics had to be prepared.

More recently, another of our collaborators, a consulting engineer with IBM, found that the results could be "taken up" directly by the percipients themselves on port-a-punch cards.

The essential advantage of this new process is the direct recording of the results by the subject on cards all ready to be analyzed by the computer according to a certain research program. Any intermediate handling has become superfluous.

We wish to point out that, on this type of port-a-punch card the numerals 1 to 9 are vertically printed. Our collaborator had the ingenious idea to use the numerals 1 to 5 and to divide these cards into 5 double-entry tables.

—*The Numerals* are arranged in vertical columns.

—*The Colors* are arranged in horizontal lines.

All the percipients have to do is to punch their calls at the intersection of a numeral column and a color line (Fig. 2).

PERCIPENT

EXPERIMENT NO.

LINE NO.

B	G	Y	R	B
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5

H2O 0.0000

1

B	G	Y	R	B
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5

B	G	Y	R	B
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5

H2O 0.0000

1

B	G	Y	R	B
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5

H2O 0.0000

1

B	G	Y	R	B
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5

H2O 0.0000

1

B	G	Y	R	B
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5

H2O 0.0000

1

B	G	Y	R	B
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5

H2O 0.0000

5. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 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622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000. 1001. 1002. 1003. 1004. 1005. 1006. 1007. 1008. 1009. 1010. 1011. 1012. 1013. 1014. 1015. 1016. 1017. 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1184. 1185. 1186. 1187. 1188. 1189. 1190. 1191. 1192. 1193. 1194. 1195. 1196. 1197. 1198. 1199. 1200. 1201. 1202. 1203. 1204. 1205. 1206. 1207. 1208. 1209. 1210. 1211. 1212. 1213. 1214. 1215. 1216. 1217. 1218. 1219. 1220. 1221. 1222. 1223. 1224. 1225. 1226. 1227. 1228. 1229. 1230. 1231. 1232. 1233. 1234. 1235. 1236. 1237. 1238. 1239. 1240. 1241. 1242. 1243. 1244. 1245. 1246. 1247. 1248. 1249. 1250. 1251. 1252. 1253. 1254. 1255. 1256. 1257. 1258. 1259. 1260. 1261. 1262. 1263. 1264. 1265. 1266. 1267. 1268. 1269. 1270. 1271. 1272. 1273. 1274. 1275. 1276. 1277. 1278. 1279. 1280. 1281. 1282. 1283. 1284. 1285. 1286. 1287. 1288. 1289. 1290. 1291. 1292. 1293. 1294. 1295. 1296. 1297. 1298. 1299. 1300. 1301. 1302. 1303. 1304. 1305. 1306. 1307. 1308. 1309. 1310. 1311. 1312. 1313. 1314. 1315. 1316. 1317. 1318. 1319. 1320. 1321. 1322. 1323. 1324. 1325. 1326. 1327. 1328. 1329. 1330. 1331. 1332. 1333. 1334. 1335. 1336. 1337. 1338. 1339. 1340. 1341. 1342. 1343. 1344. 1345. 1346. 1347. 1348. 1349. 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1848. 1849. 1850. 1851. 1852. 1853. 1854. 1855. 1856. 1857. 1858. 1859. 1860. 1861. 1862. 1863. 1864. 1865. 1866. 1867. 1868. 1869. 1870. 1871. 1872. 1873. 1874. 1875. 1876. 1877. 1878. 1879. 1880. 1881. 1882. 1883. 1884. 1885. 1886. 1887. 1888. 1889. 1890. 1891. 1892. 1893. 1894.

Fig. 2

In addition, in order to universalize this process, we have classified the colors in the order of the colors of the prism, i.e., blue, green, yellow, red and black.

After the first tentative experiments, we realized that this tech-

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nique was not only a means of simplifying the calculation of the results, but that it presented advantages by itself on the plane of paranormal reception. We found out that:

- 1) With these cards, all fraud can be avoided;
- 2) During training, the results can be immediately checked by a superposition of the sending cards and the cards of reception of information transmitted telepathically;
- 3) It seems that the slight relief of the port-a-punch cards is a support for the reception of numerals. Moreover, the order of the prism, which has a natural base, seems to aid the subjects in visualizing the colors;
- 4) Finally, at the time of each reception, which can sometimes be on automatism only, it is faster to punch out the response (the call) than to write it. Thereby the rhythm of reception could be lowered from 20 to 10 seconds.

We may add that the port-a-punch cards, thus modified, can also be used to advantage for the registration of the results of clairvoyance and precognition tests.

2) Role of the Modalities of the Emission and Results

a) Experiments with a Single Agent

It is not only the nature of the stimuli which is of importance in the telepathic transmission of colors, but also the procedure of transmission.

In the classical experiments, there is actually only one agent in one room and one or several percipients in another room. They must detect the stimuli or a run of cards which the agent, who can be at a great distance, transmits successively by looking at them in the room where he is isolated.

These experiments take place on the plane of information to be transmitted, without deliberate intention to act on the motor functions of the percipients.

There is, however, another type of experiment with a single agent whereby the latter has a definite intention of influencing the motor functions of a percipient, in making him execute a *conscious directed* act. We have then a *suggestion at a distance* and the conditions of the experimental process are different.

In this situation, the agent must "see" the subject in order to

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guide his movements towards the stimulus to be detected. For this purpose, a special device is required, for example, a closed circuit TV set, as used in the laboratories of the United States.

b) *Experiments with Two or Three Agents*

In the preceding tests, a single agent sends one or several stimuli to one or several percipients. This study permits the consideration of several psychological aspects of transmission.

With one of our collaborators, Lionel Oliver, who is a physicist, we did research not on the plane of relations of psychology and physiology to paranormal perception, but on the plane of possible relations of transmission with physical parameters.

In order to do so, we have tried to carry out experiments of "interference" by sending simultaneously one and the same stimulus or even two different stimuli, this time by two or three agents, under the determined conditions. We tried to obtain correlations between the modifications of these external conditions and those of the number of hits, i.e., exact calls.

These experiments took place at the Institut Métapsychique International during the years 1970-71. The transmission of a run (the 25 cards of a deck) took 6 to 7 minutes. The distance between an agent and the group of percipients was about 2 meters.

We used either a deck of cards of 25 colors composed of 5 blue, 5 green, 5 yellow, 5 red, and 5 black cards, or the double-effect test, the numeral-color "domino" test introduced by Warcollier.

Here are the modalities and the results of these transmissions:

1) *Transmission of an Identical Stimulus by 2 Agents*

We arranged for the transmission of the same double stimulus (numeral-color) by two agents to any number of percipients as follows:

A deck of 25 shuffled cards is put in the hands of each agent. The same order of cards is maintained, and at each sound signal the two agents "send" simultaneously an identical card to the percipients.

All the results varied in the sense of an *augmentation* of the correct calls and particularly of those called "global," in a proportion of 9%.

[38]

2) *Transmission of a Stimulus by 3 Agents*

In a preliminary study, we used a *simple stimulus* and arranged to send simultaneously the identical color to percipients by three agents. While with one agent we obtained +3.7% correct responses or hits, in the case of triple emission, the results were -13.6% of the probability ratio.

With a double-stimulus transmission, however, we observed a *decline* of 18% for the globals in proportion to the results obtained in sending with a single agent.

The transmission—and this should be stressed—increases in passing from one agent to two and deteriorates in passing from one agent to three for a given group of percipients.

c) *Experiments with a Group of Agents*

The preceding investigations on emission concerned the quantitative variations of the results in proportion to the number of agents independent of the group of percipients.

It is, however, possible to disregard this number, and Hardy considers that the emissions can be effected by a "battery" of agents in a single block as well as collectively, where the effects, on the contrary, seem to add up.

To demonstrate these results, he invented the experimental *batterie* telecommunication apparatus, which we mentioned above.

The agents in an adjoining room limit themselves to hold in mind the *desire* that the isolated subject interrupt the movement of the pointer when it passes the color which he or they have chosen and that he does not interfere with at other times.

To prevent the subject from falling into the habit of a determined rhythm, the pointer changes randomly after a few turns.

A *single stimulus* among the colors of the dial is to be transmitted, and the percipient must, so to speak, "catch in flight" the moment when the pointer comes into one of the colored sectors chosen.

Another important point to bear in mind is that the percipient or the agents are free to choose a color, contrary to the statistical investigations made in the United States, which is surrounded by multiple precautions so that the stimulus will be indicated by aleatory number tables.

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In short, in the experiments of René Hardy conscious will, i.e., mental suggestion, intervened, and it will be of great interest to compare the results obtained in this classification of colors with the one of the experiments made with card decks arranged before the trials. In the course of thousands of trials, the subject, isolated at a distance, gave indications of the passing of the pointer before the chosen color a number of times above chance expectancy.

The results, according to the color chosen, established likewise that:

—When a color has been chosen (for instance, green), it always comes up as a positive and, on the contrary, the colors not chosen come up as negatives, with the exception of red which always comes up thus indicating an explanation of the phenomenon as we shall see later.

—On the other hand, red always attracts its complementary color green, but it is never as clear as red.

—It is the same for green, which attracts red, but only when it is chosen by priority.

—On the other hand, yellow and violet were negative colors, unless they were chosen, in which case they went up the scale.

—Blue presents still less paranormal success than the other colors. It is positive only when chosen, but it is always accompanied by red which carries along its complementary color, green, without ever being able to dominate red. (Fig. 3.)

The observations made of all these biotelecommunications can be summarized as follows:

1) The motor element of the pointer, far from being an obstacle to the transmission, stimulates it, or as pointed out by René Hardy, even establishes a psychic accord between the partners; the rhythms of this are objective for the agent and subjective for the percipient.

The ocular movements which follow the displacement of the pointer can be communicated at a distance to the percipient, strengthening their biopsychic accord.

2) This method, based on the choice of the stimulus, permits the release of the part of the will in relation to the colors best received and puts their paranormal predominancy in evidence to the exclusion of affectivity.

[40]

The control of the part played by conscious preferences of the percipients for one or the other color showed that they did not intervene in their results. For instance, a person who detests green perceives it often against his liking.

Corollary: As affective preferences do not intervene, it is clear that only the nature of the color and its predominancy as well as

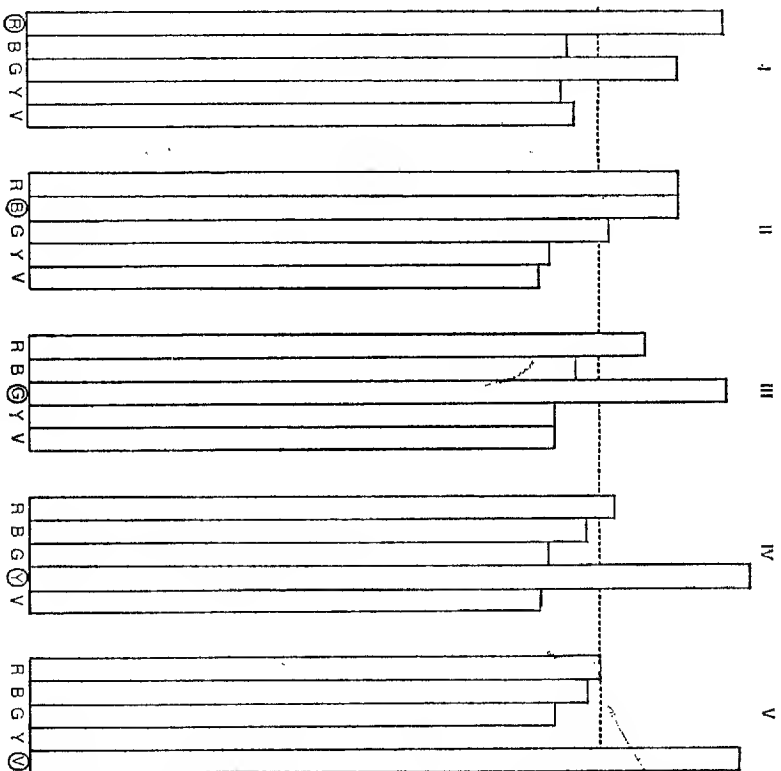


Fig. 3

The results have been adapted to the same proportional scale.

The dotted line represents the probable average.

The color chosen is surrounded by a circle.

the choice of the percipient and of the agents intervene. In spite of trying to vary their techniques, both Warcollier and Hardy have obtained the same results concerning the predominancy of the colors; of course, an explanatory theory is still pending.

[41]

All these statistically based experiments stress, therefore, the importance of the structure of the stimulus, as well as of the unconscious, but on a general plane, so to speak. Their effects are revealed independently of the subjects of the experiment, unless they are deprived of sight.

These experiments also show that, when the order of predominancy of the colors remains the same, the external conditioning of the emission, for example, the one that includes a definite number of agents participating in the experiment, can modify the total number of successes.

In short, while all these experiments establish the existence of a psi factor, they also indicate that it does not propagate at random.

II. *Appearance of a Color by Clairvoyance*

1) *Color Clairvoyance*

It seems, at this point, that clairvoyance wherein there is no interference by third persons (the subject being alone in the presence of a stimulus to be detected) does not have to face problems as complicated as telepathy which is, of course, self-evident.

This is what actually happens in a first research phase.

Let us consider now the experiments made by M. R. Pérot on color clairvoyance.

In his book, *Parapsychologie Experimentale; PSI* (Experimental Parapsychology, PSI), René Pérot relates all the quantitative clairvoyance experiments made by his wife over a period of ten years.

His methodology is rigorous and the record sheets he made permit an analysis of the different aspects of this paranormal perception.

His wife placed in front of her, horizontally, 5 target cards, each representing one of the stimuli repeated 5 times in the deck (color occurrence: yellow, blue, white, red and green) which was on the table at which she sat. One by one, without looking at them—and without anyone seeing them—she took the 25 cards to be identified and tried to place them in front of the key cards which she thought were of the same color (Blind-Matching test. B.M.) The experimenter noted on the test sheet the order number of the card placed in the compartment referring to one or the other of the five colors.

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On 7,500 trials made by Mme. Pérot, the chance expectancy was 1,500. The score obtained was 3,457 and, in prolonging the experiment, an increase in correct returns was noted.

The results are remarkable. The "hits" were distributed as follows: *Red* 804; *White* 751; *Yellow* 674; *Blue* 655; *Green* 573.

Here, again, red stands ahead, while white and yellow occupy the second and third positions. Green remains the last color to be recognized.

Red and blue kept the same place as in the preceding experiments on telepathy, in spite of the fact that black or violet had been replaced by white.

The results were noted on test sheets developed by René Pérot, permitting not only an almost direct evaluation of the results, but also the demonstration of two other elements of the "emergence of the faculty":

—*First Element*—

Placing a card on one of the targets nearest to the correct one is what one could call simply an error in localization, named by René Pérot, a "near hit." These errors in localization can also be statistically evaluated.

—*Second Element*—

On the other hand, it sometimes happens that the subject, having made the movement of placing her card before a certain target, changes her mind and finally puts this card in front of another target. This "abortive" movement is also noted, and the experimenter can evaluate how many times these tentative efforts have succeeded or not.

The study of this "pointing" is very interesting, because it shows, as emphasized by Pérot, that the subject has "felt" her error which is, in the last analysis according to him, the awakening manifestation of the function of the psi faculty outside of the mechanical gesture directed by chance.

Recently, we ourselves were able, with the assistance of one of our collaborators, to carry out some trials on clairvoyance with color cards similar to those used by Pérot, but placed in opaque black envelopes; our subject was the sensitive, Uri Geller, who is at

[43]

present being studied in the United States, mainly in respect to the physical effects he can produce.

Very gifted subjects, having developed other capacities, can succeed in different tests; this suggests, according to Dr. Rhine, that telepathy, clairvoyance, precognition and psychokinesis are variants of one and the same psi faculty.

2) *The Stepanek Effect*

In a second phase of the same investigations, things became more complicated, as we shall see in examining the Stepanek effect, named after the Czech subject who was studied by Dr. Milan Ryzl and later by Dr. J. Gaither Pratt.

In this test, the subject perceives, as before, a stimulus hidden from sight, but he seems to identify the cards not so much by the color or symbol of a card, but as if by a "psychic mark" which he projects himself, with the reservation, however, that the phenomenon manifests, as far as the Stepanek case is concerned, under hypnosis.

The effect was detected during the following experiments:

—Dr. Milan Ryzl used first, for clairvoyance tests, Zener cards placed in fully opaque envelopes.

—Then he submitted his subject to color tests, but Stepanek failed with monochromatic cards.

—Finally Dr. Ryzl used bicolor cards, i.e., cards with a different color on each of their faces.

There were 3,611 successes on 5,000 calls, distributed as follows:

| | | | | | |
|---------------------|-----|----------------------|-----|-------------------|-----|
| <i>White-Green:</i> | 845 | <i>White-Yellow:</i> | 792 | <i>White-Red:</i> | 751 |
| <i>White-Black:</i> | 685 | <i>Red-Blue:</i> | 538 | | |

Green and yellow were the colors best recognized, but blue, which placed last, was associated with red, not with white.

The tests with white-black cards pointed to an absence of correlations between the degree of blackness and the rate of success. This was accomplished by a progressively reduced blackness of the face, arranged without the subject realizing it, until it was indistinguishable from the white face.

Everything happened as if another factor not perceived at first intervened, because it was verified that the subject had a tendency to repeat his successes as well as his errors.

[44]

Everything seemed actually as if the design or the colors of a determined card had been identified by a reference mark invisible to the observers. It was established that Stepanek always repeated the same—exact or erroneous—responses for the same cards. On the other hand, it was impossible to evoke a simple factor of memorization.

After the discovery of this Stepanek effect, Dr. Pratt went from the United States to Czechoslovakia with the purpose of studying it with Dr. Ryzl.

It was verified that it was not a question of an extrasensory knowledge of certain points of reference on the cards, due for example, to identification marks, be it ever so slight, on the envelope. What kind of theory should be formed concerning this projection of a psychic reference mark on objects which the subject does not see? We shall investigate that further.

Whatever it may be, according to a recent article by Dr. Pratt, "the stronger form is," in his opinion this one of focusing, the other remaining one is the ESP of a color hidden from the view of the subject.

It seemed that the more the number of hidden color hits increased, the more the focusing effect diminished until it could disappear if the correct ESP responses were to reach the 100% level.

The paranormal perception of a stimulus is, therefore, not only global, as preceding experiments on telepathy have shown, even if often only fragmentary aspects become conscious, but, in addition, subject and object are undissociable.

Clairvoyance implies the intervention of elements other than those related to the stimulus proper.

The analysis (which is still going on) of the results of the subject Stepanek shows that independent of the stimulus and its objectivity, a psychic action "marks" it, so to say. It seems that the objective information is transmitted to the subject who, in detecting it, "subjectivizes" it.

III. *Telepathy and Clairvoyance*

Telepathy and clairvoyance can, finally, act together as a pair, and it is a real difficulty to try to divide their zones of action, as evidenced by the expression GESP.

Actually, with clairvoyance, certain subjects develop some sort

[45]

of "psychic reference" enabling them to recognize a card outside of what it represents and to repeat the same response when the card passes before them again. It is no longer the card proper they recognize but their own mental reference mark as in the Stepanek effect.

In telepathic experiments it is no longer the agent alone who seems to act in transmitting a color at a distance, but the surroundings also play their supplementary part by clairvoyance and modify the result.

Experiments, mostly of a qualitative nature, were carried out by René Warcollier for the purpose of demonstrating, in particular, the part played by environment in telepathic transmissions.

Thereby he was able to detect diverse levels in the intermingling of telepathy with clairvoyance. Analyses made of telepathic experiments in 1960, show, as a matter of fact, that the greatest number of "hits" was obtained under conditions where the light was very bright.

This was the fact when Warcollier used a process he called *le coup de poing rétinien* (the retinal punch). The agent looks quickly at perforated images before a bright light. In applying this process 75% of the results were positive.

A 35% success was obtained with sharply contrasted images such as black and white, and 33% with images painted in fluorescent colors. On the other hand, images formed by lines and designs lit from behind resulted in only 20% correct "hits."

We may add that objects were received in a proportion of 33%, but sentences read by the agent without corresponding images obtained a percentage of reception of only 18%, i.e., near the level of "chance coincidences." It seems, therefore, that on the paranormal plane a thought without an image would rarely appear.

It also became apparent that the percipients received more modifications of a transmission than the stimulus itself carried.

In 1960, for example, René Warcollier used in his office a monochromatic lighting device which produced a yellow shadow on a blue background on all the angles of the objects in the room. One of the percipients "saw" then, at a distance, "oriflammes" of yellow and blue colors in the form of triangles. "They streak," he wrote, "the atmosphere like lightning in a black night."

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Thus, each time telepathy and clairvoyance become intermingled, the latter prevails over the former. We have to keep in mind that the subjects, with due precautions taken, were not informed about the modes of operation; here we have then an effect of surprise favoring the predominance of the conditioning.

In short, all experiments which *seem* on the one hand, to belong to telepathy and, on the other hand to clairvoyance, point clearly to an "indirect clairvoyance" involving both telepathy and clairvoyance and telepathic clairvoyance i.e., clairvoyance and "subjective" telepathy, the stimulus being itself created by the subject (Stepanek effect).

[47]